

REMARKS

In the Action, claims 12-29 are rejected. By this Amendment, claims 12, 26 and 29 are amended, and new claims 30-36 are added. The pending claims in this application are claims 12-36, with claims 12, 26 and 30 being independent. In view of the following comments, reconsideration and allowance are requested.

Independent claim 12 is amended to recite that the fleece is flexible and that the ferromagnetic coating extends directly on a surface of the fleece. Claim 12 is also amended to recite the step of molding the foam element to embed the fleece in the molded foam element so that the fleece with the ferromagnetic coating forms a barrier layer.

New claims 30-36 are added to recite additional features of the invention. In particular, independent claim 30 is directed to a method of forming a foam element comprising the steps of placing a flexible fleece with a flexible ferromagnetic coating directly thereon on the wall of the mold and conforming the fleece to the contour of the mold wall, molding the foam in the mold to bind the fleece to the molded foam element, and thereafter removing the molded foam element from the mold where the fleece is embedded in the surface of the foam element as a barrier layer. These features are supported by the specification as originally filed.

Claims 31-34 depend from claim 30 to recite additional features of the method of the invention. For example, claim 31 recites that the mold includes permanent magnets to secure the flexible fleece in place during molding, while claim 32 recites that the permanent magnets are positioned on an exterior surface of the mold and are arranged to coincide with the edges of the flexible fleece. Claim 33 recites that the permanent magnets secure the fleece to the contour of the mold surface during molding to prevent the fleece from folding, warping or twisting. These

features are disclosed in the first full paragraph on page 5 of the substitute specification. Claim 34 depends from claim 30 to recite that the flexible coating of the ferromagnetic material forms a wear resistant layer on the surface of the molded foam element as disclosed in the second paragraph on page 5 of the substitute specification.

Claims 35 and 36 recite that the coating extends across the entire surface of the fleece.

In view of these amendments and the following comments, reconsideration and allowance are requested.

Rejections Under 35 U.S.C. § 103

Claims 12, 18, 19, 21, 22, 26 and 27 are rejected under 35 U.S.C. § 103(a) as being obvious over the alleged admitted prior art in view of U.S. Patent No. 5,286,431 to Banfield, JP 386102 to Harada, and optionally JP 115017 to Sugimoto. The alleged admitted prior art is cited for disclosing a method of forming a foam material by placing a barrier layer into a mold and foaming onto the back of the barrier layer. The process discussed in the specification is relied on in the Action for disclosing that there is a danger of the fleece being displaced in the mold. However, this disclosure does not provide a solution to the problem. Furthermore, the secondary references do not disclose or suggest a solution to the problem of securing a fleece material to a mold surface during the molding process.

The combination of the cited references do not disclose or suggest a method of placing a flexible fleece with a ferromagnetic coating directly thereon directly on the wall of a foam mold, producing a magnetic field cooperating with the ferromagnetic coating to hold the fleece in position on the wall of the mold, molding the foam element to embed the fleece in the molded

foam element, and thereafter removing the molded foam element where the fleece is embedded into the surface of the foam element and forming a barrier layer as recited in claim 12. As recognized in the Action, the alleged admitted prior art does not disclose a flexible fleece material with a ferromagnetic coating, attaching the fleece with the ferromagnetic coating on the wall of the mold by producing a magnetic field, or thereafter molding the foam material onto the fleece attached to the mold by the ferromagnetic coating. The secondary references do not provide the deficiencies of the alleged admitted prior art.

The Banfield patent is cited for allegedly disclosing that it is known to secure a barrier layer to a mold. Banfield clearly fails to disclose a fleece material having a ferromagnetic coating or a fleece positioned on the wall of the mold and molding a foam element in the mold so that the fleece is embedded in the molded foam element as claimed.

Banfield is relevant only to the extent that a hook and loop fastener 1 is molded on a foam structure. The fastener of Banfield includes a rigid base 4 having hooks 2 extending from one side. A housing 6 is on an opposite surface of the base to serve as a tie layer for molding fastener 1 into other objects. Furthermore, the hooks of Banfield are encapsulated in a removable elastomeric material that can contain iron particles to position the hook and loop fastener in the mold. The hook and loop fastener of Banfield is clearly not a barrier layer on the foam. The hooks are supported by the base and the hooks are embedded in the elastomeric material so that the foam material does not encapsulate the hooks and is separated by base 4 from backing 6. The elastomeric material is then removed from the hooks prior to use.

The Advisory Action appears to suggest that the claimed invention does not require the magnetic material to form a part of the final product. However, claim 12 specifically recites a

fleece material that is embedded into the surface of the foam. A fleece material, as well known in the art, is a fibrous material, and is embedded into the foam material during the molding process. Claim 12 specifically recites removing the molded foam element from the mold with the fleece embedded into the surface of foam element and forming a barrier layer on the foam element. The suggestion in the Advisory Action that the fleece is not part of the final product is inconsistent with the plain language of claim 12. Furthermore, one skilled in the art would recognize that molding a foam material directly in contact with a fleece material would result in a final product where the fleece is not removable from the foam without destroying the product.

As noted above, Banfield specifically molds the element so that the elastomeric material containing the iron particles is removable from the final product. The elastomeric material is not a ferromagnetic coating applied directly to the surface of a fleece as claimed. Accordingly, Banfield provides no motivation or incentive to one of ordinary skill in the art to apply a ferromagnetic coating directly to a flexible fleece to position the fleece in the mold during the molding process. Harada and Sugimoto are cited for disclosing urethane foam and knitted fabric that is set in the mold. Harada does not disclose or suggest the use of a ferromagnetic coating on a fleece or how the fleece is positioned in the mold and retained in place during the molding process. Thus, Harada clearly does not provide a solution to the problem solved by the present invention. Sugimoto discloses a reinforcing cloth having a metal foil fixed to an undercut section of the cloth by tacking. Sugimoto is an example of the problems associated with the prior processes that the present invention seeks to obviate.

Since Banfield, Harada and Sugimoto fail to disclose or suggest a ferromagnetic coating directly on a fleece material that is used to position the fleece in the mold, these references either

standing alone or in combination provide no motivation or incentive to modify the alleged admitted prior art in the manner recited in the claims. In view of the deficiencies of the cited art, independent claims 12 and 26 are not obvious over the alleged admitted prior art in view of Banfield, Harada and Sugimoto. The cited references either standing alone or in combination do not disclose a foam element having a body of a molded foam material and a barrier layer on the surface where the barrier layer is a fleece with a ferromagnetic coating directly thereon and where the fleece is embedded into the surface of the body. Banfield does not disclose a molded foam element and a barrier layer as the term is understood by those skilled in the art or a fleece embedded in the foam element. The hook and loop fastener of Banfield is not a barrier layer as the term is understood by those skilled in the art. Thus, the cited art does not disclose or suggest the claimed product of claim 26.

The claims depending from claims 12 and 26 are also not obvious for reciting additional features of the invention that are not disclosed in combination with the features of the independent claims. The cited art does not disclose applying a ferromagnetic coating to a fleece by a blade or nozzle as in claims 18 and 19, respectively, a spreadable ferromagnetic material as in claim 20, conveying the fleece through a drier as in claim 22 in combination with the method steps of claim 12. The cited art also fails to disclose the ferromagnetic coating on the surface remote from the foam body as in claim 27, the surface of the barrier layer embedded in the foam without the ferromagnetic coating as in claim 28, or the surface opposite the ferromagnetic coating is free of the ferromagnetic coating as in claim 29 in combination with the features of the independent claims.

Claims 13-17 are rejected as being obvious of the alleged admitted prior art in view of Banfield, Harada, Sugimoto, and further in view of EP 457226 to Von. Von is cited for the use of a polyester fleece, but does not disclose a fleece coated with ferromagnetic material amounts recited in the claims. Therefore, Von provides no motivation or incentive to use a polyester fleece as in claim 13 in combination with the method steps of claim 11. Von further fails to provide any motivation to apply the ferromagnetic coating to the fleece in the claimed amounts of claim 14, or the composition of the ferromagnetic coating of claims 15-17. The Action does not identify any motivation or incentive for the position that these features are obvious. Accordingly, these claims are allowable over the art of record.

Claims 20 and 23-25 are rejected under 35 U.S.C. § 103 as being unpatentable over the alleged admitted prior art, Banfield, Harada and Sugimoto, and further in view of U.S. Patent No. 2,909,442 to Persoon and U.S. Patent No. 3,497,411 to Chebiniak. Persoon and Chebiniak are cited for disclosing methods of applying coatings in general to a substrate. However, Persoon and Chebiniak are not analogous to methods of making foam products of the alleged admitted prior art and the Banfield patent. Therefore, these secondary references do not render obvious the claimed steps of applying a spreadable ferromagnetic coating as in claim 20, applying the ferromagnetic coating with an applicator as a layer on a strip of a silicon coated carrier as in claim 23, drying the fleece as in claim 24, or separating the carrier from the fleece as in claim 25, either alone or in combination with the features of independent claim 12. Accordingly, these claims are not obvious over the combination of the cited art.

Claims 12, 18, 19, 21, 22, 26 and 27 are rejected under 35 U.S.C. § 103 as being obvious over the alleged admitted prior art in view of Banfield and Harada. This rejection is based on the

position that it would be obvious to apply a ferromagnetic coating on the fleece as allegedly taught by Banfield. For the reasons discussed above, Banfield does not disclose or suggest coating directly on a material that forms a barrier layer of a molded foam product. Banfield discloses encapsulating the hooks of a hook and pile fastener to prevent the foam from encapsulating the hooks, thereby rendering the fastener inoperable. Banfield clearly fails to suggest embedding a fleece with a directly engaged coating of a ferromagnetic material. Banfield provides no motivation or incentive to apply a ferromagnetic coating directly on a fleece and embedding the fleece in the coating. Therefore, it is not obvious to modify the alleged admitted prior art to apply a ferromagnetic coating and embed the fleece in the ferromagnetic coating since none of the secondary references suggest this claimed feature.

The secondary references also fail to disclose an easily spreadable ferromagnetic coating material as in claim 18, applying the coating material using a nozzle as in claim 19, applying the ferromagnetic coating using a carrier as in claim 21, drying the coated fleece as in claim 22, in combination with the method steps of claim 12. The secondary references also fail to disclose a molded foam element having a barrier layer on one surface where the barrier layer is a fleece having a ferromagnetic coating directly thereon, and where the fleece is embedded in the molded foam material as in claim 26. As noted above, Banfield discloses the elastomeric material being removed from the hooks of the fastener, and thus, provides no suggestion of a fleece embedded in the ferromagnetic coating as claimed. The cited references also fails to disclose the ferromagnetic coating on a surface of the barrier layer remote from the molded foam material. As shown in the figures of Banfield, the elastomeric material is in direct contacted with the foam material. The elastomeric material is then removed from the molded foam material and the

fasteners to expose the fasteners for use. Thus, Banfield provides no suggestion of a ferromagnetic coating on a barrier layer remote from the body of the molded foam material as in claim 27. Accordingly, these claims are allowable over the combination of the cited references.

Claims 13-17 are also rejected under 35 U.S.C. § 103 as being obvious over the alleged admitted prior art, Banfield and Harada, and the Von patent. For the reasons discussed above, the secondary references do not suggest a barrier layer formed from a fleece material having the claimed properties or the properties of the ferromagnetic coating as recited in claims 13-17 in combination with the method steps of claim 12.

Claims 20 and 23-35 are rejected as being unpatentable over the alleged admitted prior art, Banfield, Harada, Persoon and Chebiniak. For the reasons discussed above, it is not obvious to apply the ferromagnetic coating in the manner recited in these claims in combination with the method steps of claim 12. Accordingly, these claims are allowable over the art of record.

New Claims 30-36

New claims 30-36 are added to recite additional features of the invention that are not disclosed or suggested in the art of record. Independent claim 30 is directed to a method of producing a foam element by providing a flexible fleece with a flexible ferromagnetic coating directly thereon, and placing the fleece on the wall of a foam mold to conform the fleece to the contour of the mold wall, producing a magnetic field cooperating with the ferromagnetic coating to hold the fleece in position and conform the fleece to the mold surface during molding, and thereafter molding the foam element to bind the fleece to the foam element and then removing the molded element from the mold. These features are not disclosed in the art of record. For

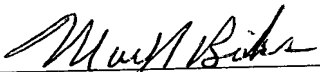
example, Banfield clearly fails to disclose a flexible fleece having a flexible ferromagnetic coating. Banfield further fails to disclose or suggest a ferromagnetic coating on a material that is flexible and conforms to the contour of the mold surface thereby holding the flexible material in place during the molding process. These features are not anticipated or rendered obvious for the reasons stated above. Accordingly, claim 30 is allowable over the references of record.

Claims 31-34 depend from claim 30 to recite additional features of the invention that are not disclosed in the art of record. For example, the cited art does not disclose a step of providing permanent magnets on the mold to secure the flexible fleece in place during molding as in claim 31, positioning the permanent magnets on an exterior surface of the mold and where the magnets are positioned along the edges of the flexible fleece as in claim 32, positioning the permanent magnets to secure the fleece to the contour of the mold during molding to prevent the fleece from folding, warping or twisting as in claim 33, in combination with the method steps of claim 30. The references of record fail to disclose a flexible coating on a flexible fleece to form a wear resistant layer on the fleece as in claim 34, either alone or in combination with the method steps of claim 30.

In view of these amendments and the above comments, the claims are allowable.

Reconsideration and allowance are requested.

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